

## Cost of Living and Budget

3/21/17

**What does the phrase "cost of living" mean to you?**

To make enough money to maintain a family  
(rent, clothes, groceries,...)

How much you're going to spend on everything  
(house, car,...)

**What is a budget?**

Separate your money into parts  
(rent, utilities, gas,...)

Categorize your money

To have money for everything

## Cost of Living and Budget

### Household Budget Exploration Project

Income

Expenses: Fixed, Variable

Graphs (3): Income, Fixed Expenses, Variable Expenses

Spreadsheet: Excel or Google Sheet

**By Tuesday, 4/04/17:**

**List of income & expenses for your household**

## Cost of Living and Budget: Types of Wages

### IWBAT

- discuss types of wages and how to convert between the types.

## Cost of Living and Budget: Types of Wages

**Wages** - what you are paid for your work

**Hourly wage** - how much you're paid per hour worked  
\$/h

**Salary** - how much you earn in a year  
usually paid monthly or more often

IWBAT discuss types of wages and how to convert between the types.

## Cost of Living and Budget: Types of Wages

**Overtime** - When you work more hours than usual (usually  $>40h$ ), most often paid at 1.5 times regular pay

Converting from an hourly wage to annual salary:

Johnny makes \$9 per hour for the first 40 hours he works each week. If he works eight hours per day, six days per week for three weeks per month, what is his annual pay?

$$\begin{aligned} & \$9/h (40h) = \$360 \\ & 1.5(\$9/h)(8h) = \$108 \\ & \$360/w + \$108 = \$468/w \\ & \$468/w \times 3 = \$1404/mo \\ & \$1404/mo \times 12m = \$16,848 \end{aligned}$$

$6d/w \cdot 8h/d = 48h/w$   
 $\$360/w \times 50w/y = \$18,000$

IWBAT discuss types of wages and how to convert between the types.

## Cost of Living and Budget: Types of Wages

Converting from annual salary to an hourly wage:

Sonia has accepted a position which pays \$37,000 per year. If she averages 55 hours per week for 42 weeks per year, what is her effective hourly wage?

$$\begin{aligned} & \$37,000/y \\ & \underline{2310 h/y} \\ & \text{about } \$16.02/h \end{aligned}$$

$55h/w \quad 42w/y \quad \$/h$   
 $55h/w \times 42w/y = 2310 h/y$

IWBAT discuss types of wages and how to convert between the types.

## Cost of Living and Budget: Types of Wages

$$\begin{array}{r} 52w/y \\ \times 40h/w \\ \hline 2080h/y \end{array}$$

Shannon  
 $\$12/h(2080h/y)$   
 $= \$24,960/y$

Sara  
 $\$8/h(2080h/y)$   
 $= \$16,640/y$

Jesus  
 $\$7.35/h(2080h/y)$   
 $= \$15,288$

Jesus is paid \$7.35/hr. Sara is paid \$8/hr.  
 Shannon is paid \$12/hr. Plot their earnings  
 over a year of 40 hr work weeks.

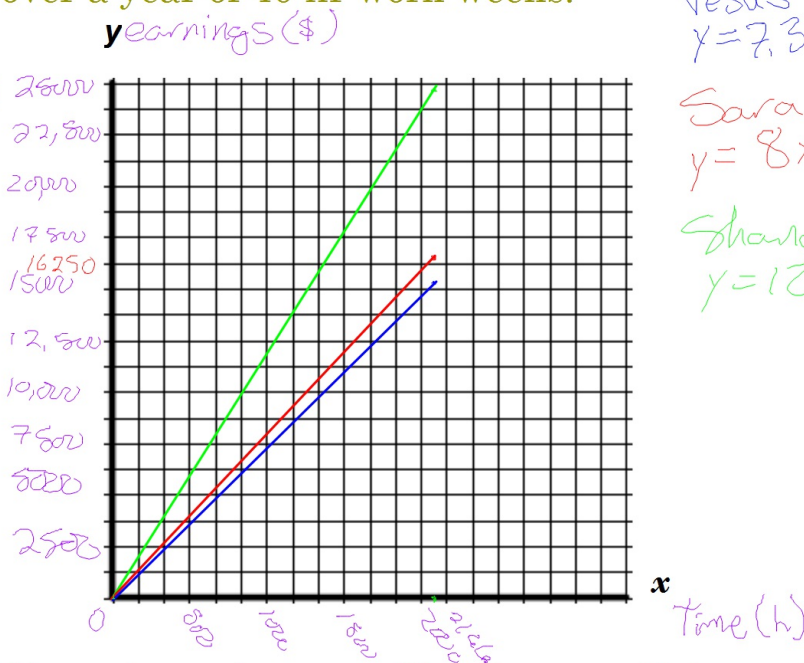
$$y = mx + b$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Jesus  
 $y = 7.35x$

Sara  
 $y = 8x$

Shannon  
 $y = 12x$



IWBAT discuss types of wages and how to convert between the types.

## Cost of Living and Budget: Types of Wages

### Complete Practice Problems 2.1.2

Graph top to bottom:

Worker A

Worker C

Worker B

By Tuesday, 4/4/17:

List of income & expenses for your household

IWBAT discuss types of wages and how to convert between the types.



## Cost of Living and Budget: Compensation Packages 3/22/17

### What is compensation? What forms can it take?

Compensation is payment for services rendered or damages done.

money / raise / or  
trade work / services / effort

Time off

Promotion

Warm / good feelings

favor

food

trade product

insurance

recognition

## Cost of Living and Budget: Compensation Packages

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.

## Cost of Living and Budget: Compensation Packages

### Insurance

Auto  
Dental  
Homeowner  
Medical  
Renters  
Electronics  
Phone  
Vision  
Pet  
Funeral  
Life

### Vacation/PTO

Paid Vacation  
Holidays  
Sick days  
Personal days

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.

## Cost of Living and Budget: Compensation Packages

### Retirement

after you have been working for years and will no longer work at that job (usu. after age 50)

Pension 401K/403B IRA

**Employer contribution** the people/company for whom you work pay into the retirement account

**Matching contribution** employer pays only if the employee puts money in, usually % of employee contribution

### Contribution limits

maximum contributions per year from an employer

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.

## Cost of Living and Budget: Compensation Packages

### Total Compensation

wages + benefits

By Tuesday, 4/04/17:

List of income & expenses for your household

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.

## Cost of Living and Budget: Compensation Packages

### Total compensation

An architect's compensation package includes the total cost of a \$250-per-month health insurance plan, the total cost of a \$35-per-month life insurance plan, and a salary of \$55,000 per year. What is the yearly value of the compensation package?

$$\begin{aligned} & \$55,000 + \$35/\text{mo} (12\text{mo}) + \$250/\text{mo} (12\text{mo}) = \\ & \qquad \qquad \qquad \$420 \qquad \qquad \qquad \$3000 \\ & \underline{\$58,420} \end{aligned}$$

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.

## Cost of Living and Budget: Compensation Packages

What is the annual value of a 401(k) plan in which the employer agrees to match 2.5% up to \$15,000 if the employee contributes \$15,000?

$$\$15,000 + 0.025(\$15,000) = \$15,375$$

What is the true hourly wage of a job that pays \$17 per hour and allows 10 hours of paid time off for every 200 hours worked?

$$\frac{210h(\$17/h)}{200h} = \frac{\$3570}{200h} \quad \$17.85/h$$

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.

## Cost of Living and Budget: Compensation Packages

### Convert hh:mm time into decimal time & reverse.

Example: 2:30 is 2h 30min which equals 2.5h

$$1:15 \quad 1\frac{1}{4}h \quad 1.25h$$

$$3.75h$$

$$3:45$$



$$2:20$$

$$2\frac{1}{3}h \quad 2.33h$$

$$6.17h$$

$$6:10$$

### Convert decimals into percents and reverse.

$$0.36 \times 100 = 36\%$$

$$9\% \div 100 = 0.09$$

$$1.24$$

$$124\%$$

$$251\%$$

$$2.51$$

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.



## Cost of Living and Budget: Compensation Packages 3/23/17

A compensation package that includes vacation pay, retirement, and life insurance but allows all employees to choose which compensation they prefer. This is known as a *cafeteria plan*.

If an employer agrees to pay a portion of the college tuition of an employee, this is known as *educational reimbursement*.

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.

## Cost of Living and Budget: Compensation Packages

Floyd's employer purchased a health insurance plan that costs \$825 per month. Floyd pays \$105 toward the plan each month. What is the annual value of the employer's contribution?

$$\begin{array}{r} \$825 \\ -105 \\ \hline \$720/\text{mo} \end{array}$$

$$\$720/\text{mo} \times 12\text{mo} = \$8640$$

employer's  
Contribution

A corporate attorney has weekends off and has 30 paid vacation days per year, including holidays that fall on weekdays. If his salary is \$119,600 per year, what is his pay per workday?

$$\begin{array}{r} 365 \\ -104 \\ \hline 261\text{d} \\ -30 \\ \hline 231\text{d} \end{array}$$

$2 \times 52 = 104\text{d}$

$$\frac{\$119,600}{231\text{wd}} = \$517.74/\text{day of work}$$

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.



### Cost of Living and Budget: Compensation Packages

Last year, Rachel contributed \$105 each month toward her 401(k) account. If her employer matched 17% of her contributions, what was the total amount contributed to the 401(k) at the end of the year?

$$\begin{array}{r} \text{employer match } 0.17(\$105) = \$17.85/\text{mo} \\ \quad \times 12 \text{ mo/y} \\ \hline \quad \quad \$214.20/\text{y} \\ \\ \text{Rachel } \$105/\text{mo} (12 \text{ mo}) \\ \quad = \$1260.00 \quad \quad \quad + \$1260.00/\text{y} \\ \quad \quad \quad \quad \quad \quad + 214.20/\text{y} \\ \hline \quad \quad \quad \quad \quad \quad \$1474.20 \end{array}$$

IWBAT discuss compensation packages, what may be included in one, and how to calculate the value of a compensation package.

### Cost of Living and Budget: Piece Rate

**An assembly technician has weekends off and has 15 paid vacation days per year, including holidays that fall on weekdays. If her salary is \$63,700 per year, what is her pay per workday?**

$$\begin{array}{r} 2052 = 104 \\ - 365 \\ \hline - 104 = 261 \\ \quad - 15 \\ \hline \quad \quad 246 \end{array} \quad \begin{array}{r} 63,700 \\ \hline 246 = 258.94 \text{ /per work day.} \end{array}$$

## Cost of Living and Budget: Piece Rate

### IWBAT

- how to estimate hourly pay from piece rate
- model piece rates using scatter plots.

## Cost of Living and Budget: Piece Rate

### What is piece rate?

Pay per piece of work completed

### Cost of Living and Budget: Piece Rate

Cliff worked 9 hours yesterday, produced 28 units, and earned \$8.75 for each unit produced. Find Cliff's average hourly wage. ~~\$(h)~~

$$\begin{array}{r} \$8.75/u \\ \times 28u \\ \hline \$245.00 \end{array} \quad \frac{\$245}{9h} = \$27.22/h \quad \$/h$$

IWBAT how to estimate hourly pay from piece rate, and model piece rates using scatter plots.

### Cost of Living and Budget: Piece Rate

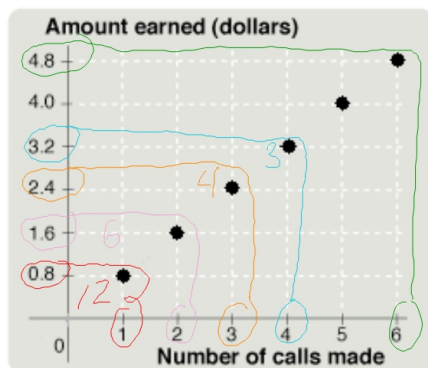
A property inspector gets paid \$350 for each property inspected. If it takes him 8 hours on average to inspect a property and he spends 48 hours each week inspecting properties, what is his average hourly wage?

$$\begin{array}{l} \$350/prop. \\ 8h/prop \\ 48h/w \end{array} \quad \frac{48h/w}{8h/p} = 6p/w \quad \$/h$$
$$\begin{array}{r} \$350/p \\ 8h/p \\ \hline \end{array} \quad \begin{array}{l} 6p/w (\$350/p) = \$2100/w \\ \frac{\$2100/w}{48h/w} = \$43.75/h \end{array}$$
$$= \$43.75/h$$

IWBAT how to estimate hourly pay from piece rate, and model piece rates using scatter plots.

## Cost of Living and Budget: Piece Rate

A telemarketer earns a fixed amount for each call that he makes, as shown in the graph below. If the telemarketer makes 12 calls, how much will he earn in total?



$$6(2) = 12 \quad \$4.8(2) = \$9.60$$

Scatter plot  
discrete graph

IWBAT how to estimate hourly pay from piece rate, and model piece rates using scatter plots.

## Cost of Living and Budget: Piece Rate

Practice: 2.3.2

IWBAT how to estimate hourly pay from piece rate, and model piece rates using scatter plots.

**What is a linear equation? What is the difference between a continuous graph and a discrete graph?**

Anequation for a line,  $mx+b=y$

Continuous



Connected points

Discrete



Separated points

## Cost of Living: Linear Equations and Wages

### IWBAT

- model a salary that includes a starting bonus
- understand the y-intercept in a linear equation
- use piece-wise functions to model changes in salary.



## Cost of Living: Linear Equations and Wages

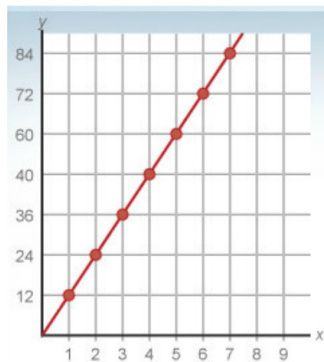
Review the general equation of a line and relate it to hourly wages.

$$y = mx + b$$

money earned →  $y$   
hourly wage →  $m$   
hours worked →  $x$   
starting bonus →  $b$

What is the equation of a line whose y-intercept is not zero?  $y = mx + b$

## Cost of Living: Linear Equations and Wages



x	y
1	\$12
2	\$24
3	\$36
4	\$48
5	\$60

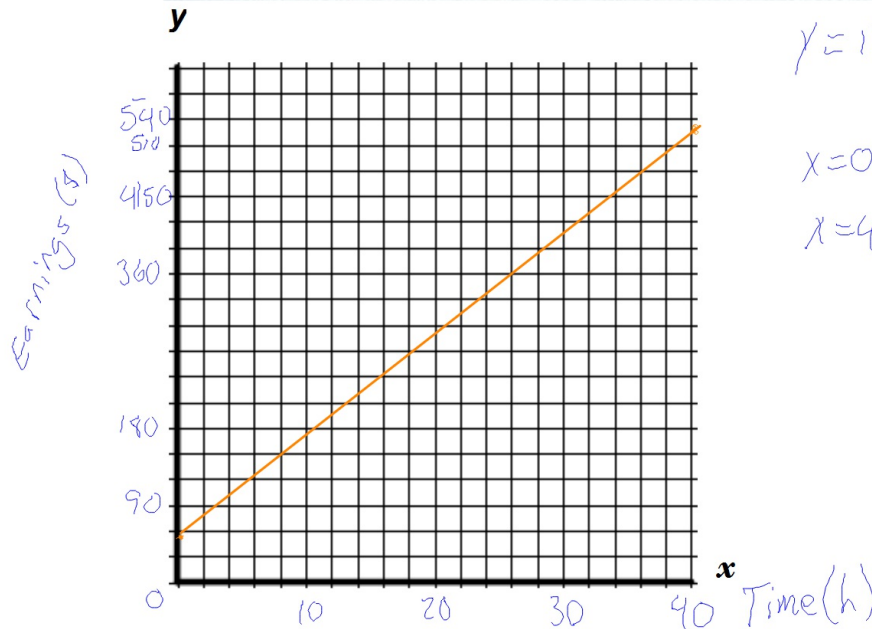
$$y = mx + b$$

$b = 0$   
 $m = 12$   
 $y = 12x + 0$   
or  
 $y = 12x$

IWBAT model a salary that includes a starting bonus, understand the y-intercept in a linear equation, use piece-wise functions to model changes in salary.

## Cost of Living: Linear Equations and Wages

Suppose you are given a \$50 signing bonus at the boutique in addition to your \$12 an hour wage. You will now fill in a table for this situation, where  $x$  is the number of hours



$$y = 12x + 50$$

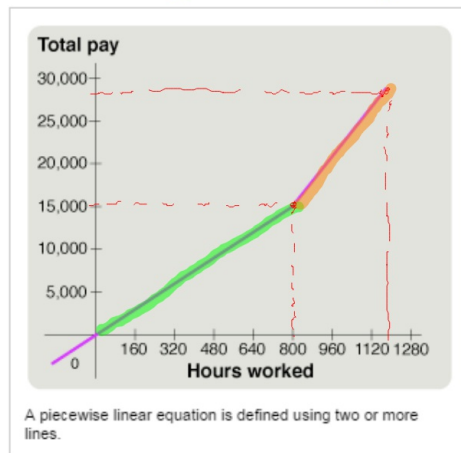
$\uparrow$  \$/h  $\uparrow$  bonus

$$x = 0, y = 50$$

$$x = 40, y = 530$$

IWBAT model a salary that includes a starting bonus, understand the y-intercept in a linear equation, use piece-wise functions to model changes in salary.

## Cost of Living: Linear Equations and Wages



$$y = m(x - x_1) + y_1$$

point-slope form

$$y = mx + b$$

$$b = 0 \quad m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{15000 - 0}{800 - 0} = 18.75/h$$

$$y = 18.75x + 0 \quad x \leq 800h$$

$$m = \frac{25000 - 15000}{1200 - 800} = \frac{10000}{400} = \$25/h$$

$$b = 15,000$$

$$y = 25(x - 800) + 15,000, x > 800h$$

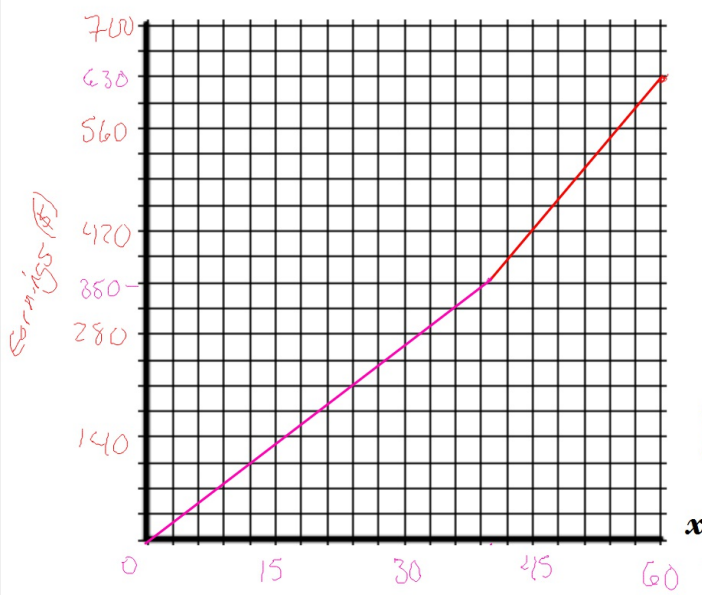
$$y = \begin{cases} 18.75x, & x \leq 800h \\ 25(x - 800) + 15,000, & x > 800h \end{cases}$$

piecewise linear eq.

IWBAT model a salary that includes a starting bonus, understand the y-intercept in a linear equation, use piece-wise functions to model changes in salary.

## Cost of Living: Linear Equations and Wages

Johnny makes \$9 per hour for the first 40 hours he works each week and makes 1.5\*regular for overtime. Graph his pay. Give the piecewise equations.



$$20h \text{ OT} = 60h \text{ total}$$

$$x = 9x, x \leq 40h$$

$$40h, \$360$$

$$m = \$13.50$$

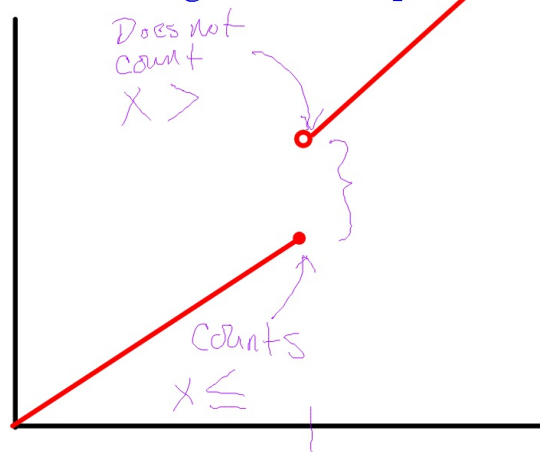
$$y = 13.5(x - 40) + 360, x > 40h$$

$$(60h, \$630)$$

$$y = \begin{cases} 9x, & x \leq 40h \\ 13.50(x - 40) + 360, & x > 40h \end{cases}$$

IWBAT model a salary that includes a starting bonus, understand the y-intercept in a linear equation, use piece-wise functions to model changes in salary.

## Cost of Living: Linear Equations and Wages



IWBAT model a salary that includes a starting bonus, understand the y-intercept in a linear equation, use piece-wise functions to model changes in salary.

## Cost of Living: Linear Equations and Wages

### Practice: 2.4

IWBAT model a salary that includes a starting bonus, understand the y-intercept in a linear equation, use piece-wise functions to model changes in salary.

## Cost of Living: Percentages and Commission

4/05/17

**What is ten percent of 23,638?**

$$23638$$

$$23638(.10) = 2,363.8$$

**What is ten percent of 7,500 plus fifteen percent of 15,000?**

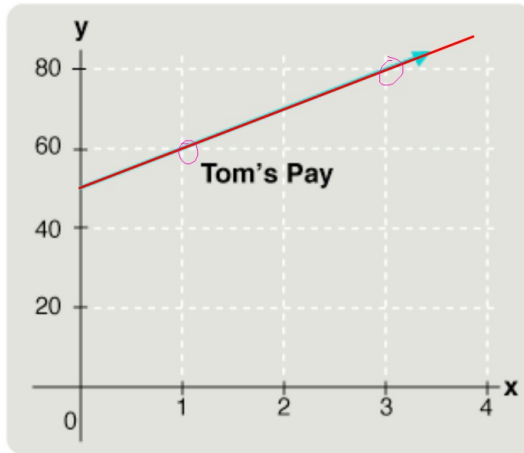
$$(.10) 7500 + (.15) 15000$$

$$750 + 2250$$

$$3000$$

## Cost of Living: Percentages and Commission

Given a graph, determine the employee's rate of pay and, if there was a bonus, the amount of that bonus.



$$b = 50$$

$$(1, 60) \quad (3, 80)$$

$$\frac{80-60}{3-1} = \frac{20}{2} = 10$$

## Cost of Living: Percentages and Commission

### IWBAT

- understand graduated commission and base pay
- use percentages to compute a total commission.



## Cost of Living: Percentages and Commission

### What does it mean to be paid a commission?

Paid according to how much you sell  
% of your sales

Push money      money paid to sell one  
specific product

## Cost of Living: Percentages and Commission

### Straight Commission

you are paid the same % of your sales  
no matter how much you sell

### Flat Commission (Piece Rate)

you are paid the same \$ per item sold  
no matter the price of the item

IWBAT understand graduated commission and base pay,  
and use percentages to compute a total commission.

## Cost of Living: Percentages and Commission

Graduated Commission  $\$21,000$

Amount Sold	Commission
Up to \$1000	10%
<u>\$1000 - \$20,000</u>	20%
Over \$20,000	25%

$$\$1000(.10) = \$100$$

$$(\$20000 - \$1000)(.20) = \$3800$$

$$(\$21000 - \$20000)(.25) = \$250 +$$


---


$$\$4150$$

IWBAT understand graduated commission and base pay, and use percentages to compute a total commission.

## Cost of Living: Percentages and Commission

Total Commission

Total commission = number of items sold \*

Straight commission

commission rate \* cost of item sold

$$\$50(3)(.20) = \$30$$

IWBAT understand graduated commission and base pay, and use percentages to compute a total commission.

## Cost of Living: Percentages and Commission

### Total Income

Total income = base pay + total commission

$$\$12(7) + \$30 = \$114$$

IWBAT understand graduated commission and base pay, and use percentages to compute a total commission.

## Cost of Living: Percentages and Commission

### Practice: 2.5

IWBAT understand graduated commission and base pay, and use percentages to compute a total commission.

**Calculate the commission for an employee.**

John is an appliance salesman. His pay is based on commission only and is currently 26% for each appliance sold. Last month he sold 3 dishwashers for \$499 each, 2 freezers for \$199 each, and 1 stainless steel oven for \$899. Find the total commissions John earned last month.

#Items x Com Rate x \$cost = Total com

$$\begin{array}{lcl} \text{DW} & 3 \times 499 \times .26 & = \$389.22 \\ \text{Fr} & 2 \times 199 \times .26 & = \$103.48 \\ \text{Oven} & 1 \times 899 \times .26 & = \$233.74 + \\ & & \hline & & \$726.44 \end{array}$$

## Cost of Living: Budget Odyssey

## IWBAT

- Categorize budget expenditures/expenses

## Cost of Living: Budget Odyssey

### Guidelines for budget exploration activity & record of decisions w/ reasoning

IWBAT categorize budget expenditures/expenses

## Cost of Living: Budget Odyssey

Working with a partner, you will:

1. Proceed to <http://econedlink.org/i145> .
2. Play the game Budget Odyssey online.
3. Discuss all decisions with your partner.
4. Record all of your decisions and reasoning on the graphic organizer (more copies available if needed).
5. Continue playing until you can complete the game without any incorrect decisions.
6. Turn in your graphic organizer at the end of class or the successful conclusion of the game (whichever comes first).
7. Work on previously assigned work which remains incomplete. **Now is a good time to set up your budget spreadsheet, if you have not already done so.**

IWBAT categorize budget expenditures/expenses



## Cost of Living: Budget Odyssey

**Turn in your completed  
record of expenditure  
categorizations w/ reasoning.**

IWBAT categorize budget expenditures/expenses

## Cost of Living: Required Paycheck Deductions 4/07/17

**Categorize a set of budget expenditures/expenses**

Student loan payment

Savings account interest

Mortgage payment

Renter's insurance

Purchase snow boots

Groceries

Paycheck

Tattoo

Diapers

Birthday money

Income

Paycheck

Birthday money

Savings account interest

Fixed expenses

Student loan payment

Renter's insurance

Mortgage payment

Groceries

Variable expenses

Birthday money

Groceries

Tattoo Purchase snow boots

Diapers

## Cost of Living: Required Paycheck Deductions

### IWBAT

- understand which deductions are required on a paycheck
- calculate how each deduction is made
- work through examples where all deductions are taken into account.

## Cost of Living: Required Paycheck Deductions

### What kinds of things are found as deductions on a paycheck?

- ✓ Federal income tax
- ✓ State income tax
- Health Ins
- Life Ins
- City Tax
- ✓ Medicare
- Retirement
- Vision Ins
- Dental Ins
- ✓ Social Security
- Union Dues

#### Taxes

Deduction
PENSION-COLORADO PERA
CITY OCCUPATIONAL HEAD TAX
STATE WITHHOLDING TAX
FEDERAL WITHHOLDING TAX
MEDICARE TAX - EMPLOYEE

#### Company Taxes

Deduction
PERA-EMPLOYER

#### Pre-Tax Deductions

Deduction
DELTA EXCLUSIVE PANEL PRETAX
CIGNA - HMO LOW - Pretax
VISION INSURANCE PRETAX

#### After-Tax Deductions

Deduction
DEN CLASSROOM TCHRS ASSOC - FT

#### Company Deductions

Deduction
CIGNA - HMO LOW - ER

## Cost of Living: Required Paycheck Deductions

Gross income *your income before taxes and deductions*

Net income *your income after taxes and deductions*  
*"take home"*

Required deductions:

- Federal Income Tax
- State Income Tax
- Social Security
- Medicare

IWBAT understand which deductions are required on a paycheck, calculate how each deduction is made, and work through examples where all deductions are taken into account.

## Cost of Living: Required Paycheck Deductions

Federal Insurance Contributions Act (FICA)

FICA = Social Security + Medicare *7.65%*

Social Security: 6.2%

Medicare: 1.45%

Pay periods:

- Annually
- Quarterly
- Monthly
- Biweekly
- Weekly
- Semi-monthly

*times per year*

*1*  
*4*  
*12*  
*26*  
*52*  
*24*

IWBAT understand which deductions are required on a paycheck, calculate how each deduction is made, and work through examples where all deductions are taken into account.

## Cost of Living: Required Paycheck Deductions

Johnny makes \$9 per hour for the first 40 hours he works each week. He is paid biweekly. How much is deducted from his paycheck for FICA?

$$\begin{array}{r} 40h/w(2w) = 80h \\ \times \$9/h \\ \hline \$720 \\ \$720(.0765) = \$55.08 \end{array}$$

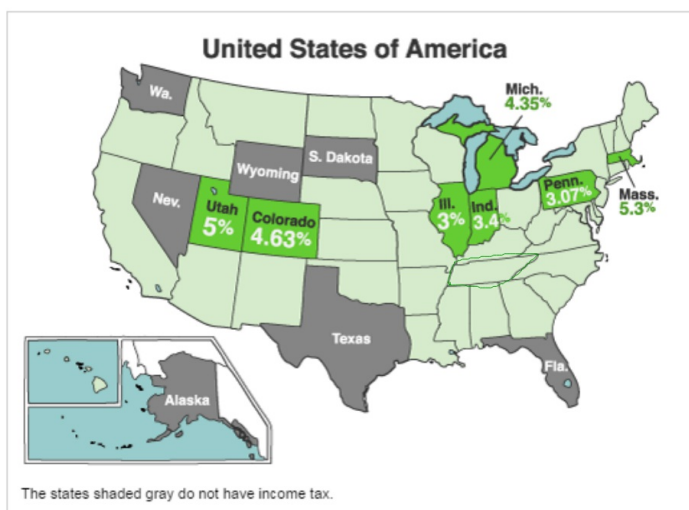
IWBAT understand which deductions are required on a paycheck, calculate how each deduction is made, and work through examples where all deductions are taken into account.

## Cost of Living: Required Paycheck Deductions

### State Income Tax

None

Flat tax *Everyone, regardless of income level, pays the same % of their income in taxes*



IWBAT understand which deductions are required on a paycheck, calculate how each deduction is made, and work through examples where all deductions are taken into account.

## Cost of Living: Required Paycheck Deductions

### Income Tax

#### Progressive tax

#### Tax brackets

##### Single Taxpayers:

If Taxable Income Is:	The Tax Is:
Not over \$9,075	10% of the taxable income
Over \$9,075 but not over \$36,900	\$907.50 plus 15% of the excess over \$9,075
Over \$36,900 but not over \$89,350	\$5,081.25 plus 25% of the excess over \$36,900
Over \$89,350 but not over \$186,350	\$18,193.75 plus 28% of the excess over \$89,350
Over \$186,350 but not over \$405,100	\$45,353.75 plus 33% of the excess over \$186,350
Over \$405,100 but not over \$406,750	\$117,541.25 plus 35% of the excess over \$405,100
Over \$406,750	\$118,118.75 plus 39.6% of the excess over \$406,750

IWBAT understand which deductions are required on a paycheck, calculate how each deduction is made, and work through examples where all deductions are taken into account.

## Cost of Living: Required Paycheck Deductions

### Practice: 2.6

IWBAT understand which deductions are required on a paycheck, calculate how each deduction is made, and work through examples where all deductions are taken into account.



## Cost of Living: Optional Paycheck Deductions

Imagine you are applying for a job that pays \$46,200 per year.  
You live in New York, which has the following income tax brackets:

Single and married filing separately — filing status ① and ③.

over	but not over	The tax is:				
\$ 0	\$ 8,000					
8,000	11,000	\$320	plus	4.5%	of the excess over \$ 8,000	
11,000	13,000	455	plus	5.25%	" " " "	11,000
13,000	20,000	560	plus	5.9%	" " " "	13,000
20,000	200,000	973	plus	6.85%	" " " "	20,000
200,000	500,000	13,303	plus	7.85%	" " " "	200,000
500,000		36,853	plus	8.97%	" " " "	500,000

Your federal income tax rate is 22%. What is your net income after all required deductions?

$$\begin{array}{r} \text{FICA } 7.65\% \\ \text{Fed } 22\% \\ \hline 29.65\% \end{array}$$

$$\begin{aligned} & \$973 + (0.0685)(46,200 - 20,000) = \$2,767.70 \\ & \$46,200(0.2965) = \$13,698.30 \end{aligned}$$

$$\begin{array}{r} \$46,200.00 \\ - 13,698.30 \\ - 2,767.70 \\ \hline \$29,734 \\ \text{Net income} \end{array}$$

## Cost of Living: Optional Paycheck Deductions

### IWBAT

- explore optional deductions such as health insurance, life insurance, disability, and retirement
- practice computing optional deductions
- understand which optional deductions reduce your taxable income.

## Cost of Living: Optional Paycheck Deductions

What kinds of deductions are optional?

Dental Ins  
Medical Ins/Health Ins  
Life Ins  
Vision Ins  
Pension/Retirement  
Union Dues  
City Tax  
Uniform  
Garnishment

### Taxes

Deduction
PENSION-COLORADO PERA
CITY OCCUPATIONAL HEAD TAX
STATE WITHHOLDING TAX
FEDERAL WITHHOLDING TAX
MEDICARE TAX - EMPLOYEE

### Company Taxes

Deduction
PERA-EMPLOYER

### Pre-Tax Deductions

Deduction
DELTA EXCLUSIVE PANEL PRETAX
CIGNA - HMO LOW - Pretax
VISION INSURANCE PRETAX

### After-Tax Deductions

Deduction
DEN CLASSROOM TCHRS ASSOC - FT

### Company Deductions

Deduction
CIGNA - HMO LOW - ER

## Cost of Living: Optional Paycheck Deductions

### Medical Insurance

Medicaid  
CHPT  
Health Ins  
Vision  
Dental  
workman's compensation

IWBAT explore optional deductions such as health insurance, life insurance, disability, and retirement, practice computing optional deductions, and understand which optional deductions reduce your taxable income.

## Cost of Living: Optional Paycheck Deductions

## Disability Insurance

**Disability Insurance**  
An illness, injury, or congenital defect keeps part of your body from working properly.

# Workman's Compensation SSD

## Life Insurance

This pays your beneficiaries in the event that you die.

IWBAT explore optional deductions such as health insurance, life insurance, disability, and retirement, practice computing optional deductions, and understand which optional deductions reduce your taxable income.

## Cost of Living: Optional Paycheck Deductions

## Retirement

**Retirement** for when you want to stop working for the rest of your life

Pension IRA 401(k) / 403(b)  
 ↑ ↑  
 for profit non-profit

## Pre-tax vs. Post-tax

Pre-tax deductions reduce your taxable income

IWBAT explore optional deductions such as health insurance, life insurance, disability, and retirement, practice computing optional deductions, and understand which optional deductions reduce your taxable income.

## Cost of Living: Optional Paycheck Deductions

### Calculating Deductions

$$\text{deduction per paycheck} = \frac{\text{annual cost}}{\text{\# of paychecks}} * \% \text{ employee covers}$$

Ana's employer covers 80% of the cost of a \$5700-per-year health insurance plan, and her share of the cost of the plan is her only optional deduction. How much is deducted from Ana's paycheck each month for health insurance?

$$\left( \frac{\$5700}{12} \right) (.20) = \$95.00$$

IWBAT explore optional deductions such as health insurance, life insurance, disability, and retirement, practice computing optional deductions, and understand which optional deductions reduce your taxable income.

## Cost of Living: Optional Paycheck Deductions

### Practice: 2.7.2

IWBAT explore optional deductions such as health insurance, life insurance, disability, and retirement, practice computing optional deductions, and understand which optional deductions reduce your taxable income.

## Cost of Living: Cost of Living and Budget

Calculate an employee's monthly insurance deduction.

Braden's employer covers 30% of the cost of a \$11,100-per-year health insurance plan, and Braden's share of the cost of the plan is his only optional deduction. How much is deducted from Braden's biweekly paycheck for health insurance?

$$\left( \frac{\$11,100}{26} \right) (.70) = \$298.84$$

## Cost of Living: Cost of Living and Budget

### IWBAT

- analyze how economic conditions affect income
- explore various types of monthly expenditures.



## Cost of Living: Cost of Living and Budget

Compare income to the cost of living in various geographical areas.

CPI	New York	Philadelphia	Los Angeles	Cleveland	Atlanta
Overall	165	92	156	78	112
Food	142	106	113	106	100
Housing	203	56	235	27	134
Utilities	165	130	115	126	93
Transportation	120	117	108	106	104
Health	182	102	120	113	104
Miscellaneous	136	112	107	100	99

CPI compares the cost of living in each area to the average for the nation (100).

Denver

<http://www.bls.gov/cpi/>

IWBAT analyze how economic conditions affect income and explore various types of monthly expenditures.

## Cost of Living: Cost of Living and Budget

Standard of living How well you are living on your income

For an income level CPI ↓ StOL ↑

Budget Keep track of how much you spend and on what you spend it so you don't overspend

IWBAT analyze how economic conditions affect income and explore various types of monthly expenditures.

## Cost of Living: Cost of Living and Budget

Budget items

\$36,000 salary

Housing 25% or 1 week's pay per month \$750/mo

(21)

Utilities turn it off, shorter shower, more efficient use, different ways to cook, unplug, cooler H<sub>2</sub>O full loads

Groceries plan meals, buy what you need, grow your own, generic/store brands, coupons, loyalty card, eat at home, sales, set aside a specific \$, make a list, buy what you will eat, buy in bulk, cash back card

Other expenses gas, ins, tags, bus pass, phone, make-up, toiletries, entertainment, clothes, \$ for doc + meds, toys, baby needs, day care, car maintenance

IWBAT analyze how economic conditions affect income and explore various types of monthly expenditures.

## Cost of Living: Cost of Living and Budget

### Practice: 2.9

IWBAT analyze how economic conditions affect income and explore various types of monthly expenditures.

## Cost of Living: Income and Career

If you wish to rent a place that costs \$1250 per month, how large should your annual household income be?

$$\begin{array}{l} \$1250 \times 52 = \$65,000 \\ \text{household} \\ \text{income} \\ \text{before taxes} \end{array}$$

## Cost of Living: Income and Career

### IWBAT

- explore various sources of income
- consider the relationship between income and career preparation
- explore correlations between income and a worker's skills, education, type of work, and the health of the economy.

## Cost of Living: Income and Career

Explore various sources of income.

1 Employment

Pros:	Cons:
Dependable income — you have a paycheck every week, every two weeks, or every month. The type of employment you can obtain is dependent on your education and experience — things you can control. You work regular hours — usually 35 to 40 each week.	You are usually not in charge. Typically you do not get to make your own hours or choose what projects or tasks you must do. Your wages, hours, and level of responsibility are ultimately up to someone else.

Self-employment

2 Freelance

3 Business owner

	Self-employed	Business owner
Differences	You are providing something that you are required to produce.	You own or run an entity that produces something.
	If you take time off, then you will not generate any income.	You can take time off and the business will still operate and generate revenue.
Similarities	You are your own boss. You must make all decisions. There are no taxes deducted from your gross income automatically. You must do this on your own.	

4 Investment

## Cost of Living: Income and Career

Education

Degrees

Associates 2 yrs  
AA, AS

Bachelors 4 yrs, or Assoc + 2 yr  
BA, BS

Masters Bach + 2 yrs  
MA, MS, MBA

Doctoral Master + 3-5 yrs  
PhD

Professional Bach + 3-7 yrs  
MD, DDS, OD, DO  
JD

Certificate  
6 wks - 18 mos

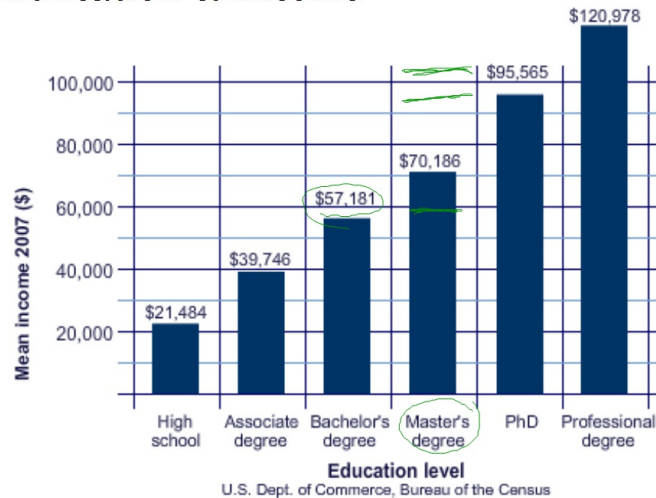
Internship/On the job training

Apprenticeship

IWBAT consider the relationship between income and career preparation, explore correlations between income and a worker's skills, education, type of work, and the health of the economy.



## Cost of Living: Income and Career Education & Income



IWBAT consider the relationship between income and career preparation, explore correlations between income and a worker's skills, education, type of work, and the health of the economy.

## Cost of Living: Income and Career Unemployment

$$\text{Unemployment} = \frac{\text{\# of workers willing and able to work but who are jobless}}{\text{total workers}}$$

To write this ratio as a percentage, you multiply its decimal form by 100.

$$\text{Unemployment rate (\%)} = \frac{\text{\# of workers willing and able to work but who are jobless}}{\text{total workers}} \cdot 100$$

### Working with Unemployment Rates

This is a table of unemployment rates. For instance, by looking at the table, you can tell that in February of 2002, 5.7% of the population was unemployed.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2000	4.0	4.1	4.0	3.8	4.0	4.0	4.0	4.1	3.9	3.9	3.9	3.9
2001	4.2	4.2	4.3	4.4	4.3	4.5	4.6	4.9	5.0	5.3	5.5	5.7
2002	5.7	5.7	5.7	5.9	5.8	5.9	5.8	5.7	5.7	5.7	5.9	6.0
2003	5.8	5.9	5.9	6.0	6.1	6.1	6.3	6.1	6.1	6.0	5.8	5.7
2004	5.7	5.6	5.8	5.6	5.6	5.6	5.6	5.4	5.4	5.5	5.4	5.4
2005	5.3	5.4	5.2	5.2	5.1	5.1	5.0	4.9	5.0	5.0	5.0	4.9
2006	4.7	4.8	4.7	4.7	4.6	4.6	4.6	4.7	4.5	4.4	4.5	4.4
2007	4.6	4.5	4.4	4.5	4.4	4.6	4.4	4.6	4.7	4.7	4.7	5.0
2008	5.0	4.8	5.1	5.0	5.4	5.5	5.4	6.1	6.2	6.6	6.9	7.4
2009	7.7	8.2	8.6	8.9	9.4	9.5	9.4	9.7	9.8	10.1	10.0	10.0
2010	9.7											

Data taken from Bureau of Labor Statistics

1. If there were 7.7 million people unemployed in December of 2007, how many millions of people were available to work?

IWBAT consider the relationship between income and career preparation, explore correlations between income and a worker's skills, education, type of work, and the health of the economy.



## Cost of Living: Income and Career

Okun's Law

% change in GDP =

$$3\% - 2 * (\% \text{ change in unemployment rate})$$

Handwritten calculation:  
 $3 - 2(-2)$   
10 → 8  
(-2)

Handwritten calculation:  
 $3\% - 2(0.2) = 2.6\% \text{ growth} > 0$

Types of unemployment

Structural - your skills are no longer needed

Frictional - you are between jobs, but you have skills people want

Cyclical - follows business trends

Unemployment resistant careers

Auto mechanic, farmers, teachers, doctors/nurses, pharmacist, police, emergency services, utilities, groceries, dentist, baker, gov't

IWBAT consider the relationship between income and career preparation, explore correlations between income and a worker's skills, education, type of work, and the health of the economy.

## Cost of Living: Income and Career

Practice: 2.8.2

IWBAT consider the relationship between income and career preparation, explore correlations between income and a worker's skills, education, type of work, and the health of the economy.

In the country of Apexistan, 6.9% of the population was unemployed in September of 2014. If there were 186,000,000 people willing and able to work in Apexistan during that month, how many people were unemployed?

**What possible careers are in your future?**

Cosmetology

Business

Nursing

Doctor (Oncology, Cardiac, gerontology)

CNA

## Cost of Living: Wages and Me

### IWBAT

- Explain that supply and demand are the primary factors in determining wages.
- Explore wage rates in their potential careers.

## Cost of Living: Wages and Me

Using the interview form, discuss plans for researching a possible career with two other students. Record their responses on your form.

IWBAT explain that supply and demand are the primary factors in determining wages and explore wage rates in their potential careers.

## Cost of Living: Wages and Me

### Procedure

1. Retrieve a computer.
2. Read page one of assignment.
3. Proceed to the URL in **bold**.  
([http://www.bls.gov/oes/current/oes\\_nat.htm](http://www.bls.gov/oes/current/oes_nat.htm))
4. Follow the directions on page one of the assignment.
5. Record your answers to questions #1-10.
6. Write a short summary below "Conclusion" explaining
  - what you need to do over the next five years for your chosen career *OR*
  - why you now are looking into a different career other than the one chosen for this exploration.

IWBAT explain that supply and demand are the primary factors in determining wages and explore wage rates in their potential careers.

## Cost of Living: Wages and Me

**Turn in both forms.**

Work on practice problems 2.8, 2.9,  
or other previously incomplete work.

IWBAT explain that supply and demand are the primary factors in determining wages and explore wage rates in their potential careers.

**Create formulas in spreadsheet**

**Create a Chart/Graph in spreadsheet**

**IWBAT**

- demonstrate my proficiency on practice problems before my unit test.



## 2.10 Cost of Living and Budget Review

Key vocabulary

2.1 Hourly wage, salary

2.2 Total compensation

2.3 Piece rate

2.4 Slope, intercept, piece-wise linear

2.5 Percentage, commission, graduated commission, total commission

2.6 Deductions, FICA, gross income, net income, flat tax, progressive tax, tax brackets

2.7 Pre-tax vs. post-tax

2.8 Unemployment rate, structural unemployment, frictional unemployment, cyclical unemployment

2.9 Cost of living, standard of living, budget

As a class, complete a definition of each key term (26 total).

IWBAT demonstrate my proficiency on practice problems before my unit test.

## 2.10 Cost of Living and Budget Review

Key skills

2.1 Converting from salary to hourly wage and from hourly wage to salary

2.2 Calculate total compensation

2.3 Convert piece rate to hourly wage

2.4 Express hourly wage and starting bonus as linear equation, express overtime as a set of piece-wise linear equations

2.5 Calculate total commission

2.6 Calculate required deductions

2.7 Calculate per paycheck deductions for optional deductions

2.8 Calculate number of unemployed and number of available workers via the unemployment rate equation

As a class, complete an explanation of each key skill (11 total).

IWBAT demonstrate my proficiency on practice problems before my unit test.

Paper test 2.10.5

IWBAT demonstrate proficiency on my unit test.